

signal from timer T1. During this period, the capacitor C4 is charged up so that at the end of the timing signal when the relay K1 is unlatched and its contact arm 64 returns to engagement with the first contact 66, the capacitor C4 will then discharge through the buzzer BZ to ground and cause the buzzer BZ to generate a beeping sound which informs the user that the laser module 12 has shut off. Also during the period of the output timing signal the LED is turned on indicating that the beam of laser light B is being generated. The LED is mounted within the push button start switch 46 which is transparent.

Thus, at the start of the timed cycle, the timer T1 turns on the LED light and the laser module 12 to cause the latter to generate the beam of laser light B. The capacitor C4 is charged during the timed cycle. At the end of the timed cycle, the timer T1 turns off the LED light and the laser module 12. The capacitor C4 is discharged through the buzzer BZ causing a beeping to inform the user that the time has expired. The buzzer BZ is disposed adjacent to an opening 70 defined through the back base 40 in spaced relationship to and behind the clip 54. The opening 70 permits the beeping to be readily heard outside of the housing 20 by the user. The key 52 can be removed from the lock mechanism 50 so that the device 10 cannot be used nor accidentally turned on. To recharge, the recharger plug 62 is connected to a 110 vac wall socket for about six to eight hours.

It is thought that the present invention and its advantages will be understood from the foregoing description and it will be apparent that various changes may be made thereto without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely preferred or exemplary embodiment thereof.

#### I claim:

1. A hand-held laser light generator device for use in medical therapy, said device comprising:
  - (a) a wand in the form of a substantially elongated hollow tube defining an interior cavity and capable of being retained in a hand of a user and freely moved relative to the surface of the skin of a patient to receive the medical therapy;
  - (b) means mounted in said interior cavity of said wand for generating a beam of laser light in the red color spectrum;
  - (c) an optical arrangement mounted in said interior cavity of said wand for receiving the red color spectrum generated beam of laser light from said generating means and for transforming the generated beam of laser light into a substantially planar beam of laser light disposed externally of said wand for producing a line of laser light in the red color spectrum at a desired location on the surface of the patient's skin and with said line of laser light being visible to the user as said wand is held and freely moved by the user in a spaced relationship from and out of contact with the patient;
  - (d) a housing defining an interior chamber and having an exterior;
  - (e) means disposed in said interior chamber of said housing for supplying electrical power to said laser beam generating means;
  - (f) means for electrically interconnecting said laser beam generating means and said electrical power supplying means such that said wand is movable relative to said housing, and
  - (g) means on said housing for controlling a period of time said beam of laser light is generated.

2. The device of claim 1 wherein said generating means is a semiconductor diode laser using less than one watt of power.

3. The device of claim 1 wherein the generated said beam of light has a wavelength of about 635 nm.

4. The device of claim 1 wherein said optical arrangement includes:

a collimating lens; and

a line generating prism, said collimating lens and line generating prism being disposed in a serial relation to said generating means.

5. The device of claim 1 wherein said electrical power supplying means is a battery.

6. The device of claim 1 wherein said controlling means includes:

an electrical timing circuit disposed in said interior chamber of and being mounted to said housing;

a start switch activatable between on and off positions; and

a selector knob having multiple period of time length setting positions, said start switch and selector knob being mounted to said housing and accessible at said exterior thereof and being in operable communication with said electrical timing circuit for controlling initiation of generation of said beam of laser light and length of the period of time said beam of laser light is generated

7. The device of claim 6 wherein said controlling means further includes:

a lock mechanism mounted to said housing; and

a key for actuating said lock mechanism between a first position in which said lock mechanism permits said start switch to be activated to said on position and a second position in which said lock mechanism prevents said start switch from being activated to said on position.

8. The device of claim 1 wherein said housing further has a cradle mounted to and projecting outwardly from said exterior of said housing for releasably securing said wand thereto, said cradle defining an annular slot open at opposite ends such that said tubular wand can be removably and slidably placed through said slot in a relatively tight-fitting relationship with said cradle and thereby retained by said cradle in a storage position spaced from and alongside said housing.

9. The device of claim 1 wherein said housing further has a clip mounted to said exterior of said housing for releasably securing said housing to an article of clothing worn by the user.

10. A hand-held laser light generator device for use in medical therapy, said device comprising:

(a) a wand in the form of a substantially elongated hollow tube defining an interior cavity and capable of being retained in a hand of a user and freely moved relative to the surface of the skin of a patient to receive the medical therapy;

(b) a semiconductor diode laser mounted in said interior cavity of said wand for generating a beam of laser light in the red color spectrum;

(c) an optical arrangement mounted in said interior cavity of said wand for receiving the red color spectrum generated beam of laser light from said generating means and for transforming the generated beam of laser light into a substantially planar beam of laser light disposed externally of said wand for producing a line of

laser light in the red color spectrum at a desired location on the surface of the patient's skin and with said line of laser light being visible to the user as said wand is held and freely moved by the user in a spaced relationship from and out of contact with the patient;

- (d) a housing defining an interior chamber and having an exterior,
  - (e) a battery disposed in said interior chamber of said housing for supplying electrical power to said laser;
  - (f) an electrical cord having opposite ends, one of said opposite ends being attached to said wand and making electrical connection with said laser, the other of said opposite ends being attached to said housing and making electrical connection with said battery such that said wand is movably relative to said housing; and
  - (g) means for controlling a period of time said beam of laser light is generated, said controlling means including
    - (i) an electrical timing circuit disposed in said interior chamber of and being mounted to said housing,
    - (ii) a start switch activatable between on and off positions,
    - (iii) a selector knob having multiple period of time length setting positions, said start switch and selector knob being mounted to said housing and accessible at said exterior thereof and being in operable communication with said electrical timing circuit for controlling initiation of generation of said beam of laser light and length of the period of time said beam of laser light is generated,
    - (iv) means electrically activatable for generating a sound audible to the user, and
    - (v) means electrically connected to said timing circuit and said sound generating means for electrically charging in response to said beam of laser light being generated and for electrically discharging and thereby electrically activating said sound generating means in response to termination of generation of said beam of laser light.
11. The device of claim 10 wherein said laser uses less than one watt of power.
12. The device of claim 10 wherein said generated said beam of laser light has a wavelength of about 635 nm.
13. The device of claim 10 wherein said optical arrangement includes;
- a collimating lens; and
  - a line generating prism, said collimating lens and line generating prism being disposed in a serial relation to said laser.
14. The device of claim 10 wherein said controlling means further includes:
- a lock mechanism mounted to said housing; and
  - a key for actuating said lock mechanism between a first position in which said lock mechanism permits said start switch to be activated to said on position and a second position in which said lock mechanism prevents said start switch from being activated to said on position.
15. The device of claim 10 wherein said housing further has a cradle mounted to and projecting outwardly from said exterior of said housing for releasably securing said wand thereto, said cradle defining an annular slot open at opposite ends such that said tubular wand can be removably and slidably placed through said slot in a relatively tight-fitting relationship with said cradle and thereby retained by said cradle in a storage position spaced from and alongside said housing.

16. The device of claim 10 wherein said housing further has a clip mounted to said exterior of said housing for releasably securing said housing to an article of clothing worn by the user.

17. A hand-held laser light generator device for use in medical therapy, said device comprising:

- (a) a wand in the form of a substantially elongated hollow tube defining an interior cavity and capable of being retained in a hand of a user and freely moved relative to the surface of the skin of a patient to receive the medical therapy;
- (b) a semiconductor diode laser mounted in the interior cavity of said wand and using less than one watt of power for generating a beam of laser light in the red color spectrum and having a wavelength of about 635 nm;
- (c) an optical arrangement mounted in said interior cavity of said wand and including
  - (i) a collimating lens, and
  - (ii) a line generating prism, said collimating lens and line generating prism being disposed in a serial relation to said laser such that said beam of laser light in said red color spectrum generated by said laser is received and transformed into a substantially planar beam of laser line disposed externally of said wand for producing a line of laser light in the red color spectrum at a desired location on the surface of the patient's skin and with said line of laser light being visible to the user as said wand is held and freely moved by the user in a spaced relationship from and out of contact with the patient;
- (d) a housing defining an interior chamber and having an exterior,
- (e) a battery disposed in said interior chamber of said housing for supplying electrical power to said laser;
- (f) an electrical cord having opposite ends, one of said opposite ends being attached to said wand and making electrical connection with said laser, the other of said opposite ends being attached to said housing and making electrical connection with said battery such that said wand is movable relative to said housing; and
- (g) means on said housing for controlling a period of time said beam of laser light is generated, said controlling means including
  - (i) an electrical timing circuit disposed in said interior chamber of and being mounted to said housing,
  - (ii) a push button start switch activatable between on and off positions,
  - (iii) a rotary selector knob having multiple period of time length setting positions, said push button start switch and rotary selector knob being mounted to said housing and accessible at said exterior of said housing and being in operable communication with said electrical timing circuit for controlling initiation of generation of and length of the period of time said beam of laser light is generated,
  - (iv) a lock mechanism mounted to said housing,
  - (v) a key for actuating said lock mechanism between a first position in which said lock mechanism permits said push button start switch to be activated to said on position and a second position in which said lock mechanism prevents said push button start switch from being activated to said on position,
  - (vi) means electrically activatable for generating a sound audible to the user, and
  - (vii) means electrically connected to said timing circuit and said sound generating means for electrically

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charging in response to said beam of laser light being generated and for electrically discharging and thereby electrically activating said sound generating means in response to termination of generation of said beam of laser light.

18. The device of claim 17 wherein said housing further has a cradle mounted to and projecting outwardly from said exterior of said housing for releasably securing said wand thereto, said cradle defining an annular slot open at opposite ends such that said tubular wand can be removably and

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slidably placed through said slot in a relatively tight-fitting relationship with said cradle and thereby retained by said cradle in a storage position spaced from and alongside said housing.

5 19. The device of claim 17 wherein said housing further has a clip mounted to said exterior of said housing for releasably securing said housing to an article of clothing worn by the user.

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